

APPLICATION NO. 10/061,216
DOCKET NO. 43276

AMENDMENTS TO THE CLAIMS

Please amend the claims according to the following listing. This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

Claims 1-78. (canceled).

Claim 79. (Previously presented) A method for extracting a virus from plant tissue, comprising the steps of:

homogenizing virus-containing plant tissue to obtain green juice;

adjusting the pH of the green juice to about 5.0;

heating the green juice to about 47° C;

cooling the green juice;

centrifuging the green juice at about 6000 x g to obtain a supernatant and pellet;

precipitating the supernatant in polyethylene glycol and a salt to obtain a precipitate;

resuspending the precipitate in an aqueous solution;

extracting the precipitate in an organic solvent and centrifuging the extract; and

recovering the aqueous phase of the centrifuged material containing said virus.

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- Claim 80. (Previously presented) A method as set forth in claim 79, wherein said homogenizing step includes homogenizing the virus-containing plant tissue in $\text{Na}_2\text{S}_2\text{O}_5$.
- Claim 81. (Previously presented) A method as set forth in claim 80, further comprising the step after said homogenizing step of straining the homogenate to obtain the green juice.
- Claim 82. (Previously presented) A method as set forth in claim 79, wherein in said heating the green juice is heated for a period of about 5 minutes.
- Claim 83. (Previously presented) A method as set forth in claim 79, wherein in said cooling the green juice is cooled to about 5°C .
- Claim 84. (Previously presented) A method as set forth in claim 79, wherein in said centrifuging the green juice is centrifuged at approximately 6,000 g for about 3 minutes.
- Claim 85. (Previously presented) A method as set forth in claim 79, further comprising lyophilizing the aqueous phase of the centrifuged solvent-extracted material.
- Claim 86. (Previously presented) A method as set forth in claim 79, wherein the salt is NaCl .
- Claim 87. (Previously presented) A method as set forth in claim 79, wherein the organic solvent is chloroform and/or butanol.
- Claim 88. (Previously presented) A method as set forth in claim 79, wherein said precipitating the supernatant is in about 4% of a salt.

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Claim 89. (Previously presented) A method as set forth in claim 79, wherein resuspending the precipitate in an aqueous solution occurs in a volume of aqueous solution less than about one quarter the volume of said green juice.

Claim 90. (Previously presented) A method as set forth in claim 79, wherein said extracting with said solvent is a final step where the virus is separated from other organic materials and no further concentration of the virus in solution occurs.

Claim 91. (Previously presented) A method as set forth in claim 79, wherein said homogenizing occurs in $\text{Na}_2\text{S}_2\text{O}_5$ and is followed by straining; said heating is for a period of about 5 minutes; said cooling is to about 15°C or less; said precipitating uses about 4% NaCl ; said resuspending the precipitate is at a concentration of at least about 1 mg per ml; said organic solvent is a mixture of chloroform and butanol, and resuspended centrifuged material is recovered and lyophilized; and the lyophilized material is resuspended at a concentration of about 5 to about 10 mg per ml water.

Claim 92. (Previously presented) In a method for extracting a protein containing substance from a fluid derived from plant cells comprising separating the protein containing substance from other plant components in the fluid and increasing the concentration of the protein containing substance in solution, the improvement comprising;

extracting the protein containing substance with an organic solvent from an aqueous phase, wherein the protein containing substance in the aqueous phase is in more concentrated form than the fluid derived from plant cells.

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- Claim 93. (Previously presented) The method of claim 92 wherein the protein containing substance is a pharmaceutical.
- Claim 94. (Previously presented) The method of claim 93 wherein the pharmaceutical is a vaccine.
- Claim 95. (Previously presented) The method of claim 93 wherein the pharmaceutical is in injectable or parenteral form.
- Claim 96. (Previously presented) The method of claim 91 wherein the protein containing substance in the aqueous phase is concentrated to at least four times the concentration in the fluid derived from plant cells.
- Claim 97. (Currently amended) In a method for extracting a pharmaceutical protein containing substance for injection into an animal from a fluid derived from plant cells comprising separating the protein containing substance from other plant components in the fluid, the improvement comprising;
- extracting the protein containing substance with an organic solvent from an aqueous phase containing the protein as a final purification step for said protein containing substance and no further concentration of the a virus in solution occurs.
- Claim 98. (Previously presented) The method of claim 97 wherein the pharmaceutical is a vaccine.

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Claim 99. (Previously presented) The method of claim 93 wherein the protein containing substance is concentrated to at least four times the concentration in the fluid derived from plant cells before said extracting.